

AMENDMENTS TO THE CLAIMS:

1 – 5. (Canceled)

6. (New) A computer-implemented method of using a computer system to configure a simulation program executable by a computer processor for computing amounts of heat exchanged, comprising the steps of:

classifying models which represent phenomena occurring in various components of an apparatus for producing refrigeration effect by means of heat exchange between refrigerant and air into categories independent of one another;

defining the resulting categories as classes;

defining an abstract class by extracting characteristics common to a plurality of similar parts contained in each category if these parts need to be distinguished for the purpose of calculation;

providing, under the abstract class, as many subclasses which inherit character of the abstract class as there are necessary types of parts to be distinguished;

implementing a phenomenological model of each defined class; and

creating a computer-implemented simulation program executable by the computer processor in an object-oriented language based on the classes.

7. (New) A computer-implemented method for using a computer system to configure a simulation program executable by a computer processor for computing amounts of heat exchanged, comprising the steps of:

defining a compressor class, tube class, and heat exchanger class as categories among which models that represent phenomena occurring in a refrigeration system for producing

refrigeration effect by means of heat exchange between refrigerant and air are independent of one another;

defining an abstract class by extracting characteristics common to a plurality of similar parts contained in each class if such parts exist;

providing, under the abstract class, as many subclasses which inherit character of the abstract class as there are necessary types of parts to be distinguished;

implementing a phenomenological model of each defined class; and

creating a computer-implemented simulation program executable by the computer processor in an object-oriented language based on the classes.

8. (New) A computer-implemented method for using a computer system to configure a simulation program executable by a computer processor for computing amounts of heat exchanged according to claim 7, comprising the steps of:

composing the heat exchanger class by combining individual cells in a cell class;

combining a tube class and fin class into the cell class as categories among which models that represent phenomena occurring in the cells are independent of one another;

defining a refrigerant class for a working fluid which interacts with the tube class;

defining an air class for a working fluid which interacts with the fin class;

defining an abstract class by extracting characteristics common to a plurality of similar parts contained in each of the tube class and fin class if such parts exists;

defining, under each abstract class, as many subclasses which inherit character of the abstract class as there are necessary types of parts to be distinguished;

implementing a phenomenological model of each defined class; and

creating a simulation program in an object-oriented language based on the classes.

9. (New) A computer-implemented method for using a computer system to configure a simulation program executable by a computer processor for computing amounts of heat exchanged, comprising the steps of:

composing a heat exchanger which produces refrigeration effect by means of heat exchange between refrigerant and air, by combining individual cells in a cell class;

combining a tube class and fin class into the cell class as categories among which models that represent phenomena occurring in the cells are independent of one another;

defining a refrigerant class for a working fluid which interacts with the tube class;

defining an air class for a working fluid which interacts with the fin class;

defining an abstract class by extracting characteristics common to a plurality of similar parts contained in each of the tube class and fin class if such parts exists;

defining, under each abstract class, as many subclasses which inherit character of the abstract class as there are necessary types of parts to be distinguished;

implementing a phenomenological model of each defined class; and

creating a computer-implemented simulation program executable by the computer processor in an object-oriented language based on the classes.

10. (New) A storage medium containing a simulation program which makes a computer implement the functions described in any of claims 6 - 9.